

What is claimed is:

1. A coating unit for applying a coating solution on a substrate, comprising:

a container enclosing the substrate;

5 a casing for accommodating said container therein;

a supply device for supplying a predetermined gas into said casing;

a first exhaust pipe for exhausting an atmosphere inside said container;

10 a second exhaust pipe for exhausting an atmosphere inside said casing;

a first adjusting device which is disposed in said first exhaust pipe, for adjusting a flow rate of an atmosphere passing through said first exhaust pipe; and

15 a second adjusting device which is disposed in said second exhaust pipe, for adjusting a flow rate of an atmosphere passing through said second exhaust pipe.

2. A coating unit according to claim 1,

wherein a downstream side of said first exhaust pipe is connected to an upstream side of said second adjusting device in said second exhaust pipe.

3. 20 A coating unit according to claim 1, further comprising:

a carrier for carrying a coating solution supply nozzle for supplying the coating solution to the substrate which is placed inside said container;

an accommodating portion for accommodating said carrier which is disposed inside said casing; and

25 a third exhaust pipe for exhausting an atmosphere inside said accommodating portion.

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4. A coating unit according to claim 1,
wherein the gas is supplied from a top portion of said casing in a
downward direction by said supply device, and

5 wherein said second exhaust pipe is disposed to extend from a bottom
portion of said casing.

5. A coating unit according to claim 4, further comprising:
a current plate for straightening a descending air current caused to
occur inside said casing by said supply device and said second exhaust pipe.

6. A coating unit according to claim 2, further comprising:
10 a carrier for carrying a coating solution supply nozzle for supplying
the coating solution to the substrate which is placed inside said container;
an accommodating portion for accommodating said carrier which is
disposed inside said casing; and

15 a third exhaust pipe for exhausting an atmosphere inside said
accommodating portion.

7. A coating unit according to claim 5, further comprising:
a carrier for carrying a coating solution supply nozzle for supplying
the coating solution to the substrate which is placed inside said container;
an accommodating portion for accommodating said carrier which is
20 disposed inside said casing; and

a third exhaust pipe for exhausting an atmosphere inside said
accommodating portion.

8. A coating method for applying a coating solution on a substrate,
wherein utilized is a coating unit comprising: a container enclosing the
25 substrate; a casing for accommodating the container therein; a supply device
for supplying a predetermined gas into the casing; a first exhaust pipe for

exhausting an atmosphere inside the container; a second exhaust pipe for exhausting an atmosphere inside the casing; a first adjusting device which is disposed in the first exhaust pipe, for adjusting a flow rate of an atmosphere passing through the first exhaust pipe; and a second adjusting device which is
5 disposed in the second exhaust pipe, for adjusting a flow rate of an atmosphere passing through the second exhaust pipe, and the coating method comprising the step of:

adjusting a flow rate of the atmosphere inside the casing which is exhausted from the second exhaust pipe to maintain a pressure inside the casing at a higher level than a pressure outside the casing.

9. A coating method for applying a coating solution on a substrate,

wherein utilized is a coating unit comprising: a container enclosing the substrate; a casing for accommodating the container therein; a supply device for supplying a predetermined gas into the casing; a first exhaust pipe for exhausting an atmosphere inside the container; a second exhaust pipe for exhausting an atmosphere inside the casing; a first adjusting device which is
15 disposed in the first exhaust pipe, for adjusting a flow rate of an atmosphere passing through the first exhaust pipe; and a second adjusting device which is disposed in the second exhaust pipe, for adjusting a flow rate of an atmosphere passing through the second exhaust pipe, and in which a downstream side of the first exhaust pipe is connected to an upstream side of the second adjusting device in the second exhaust pipe, and the coating method comprising the step of:

adjusting a flow rate of the atmosphere inside the container which is
25 exhausted from the first exhaust pipe to a first flow rate and adjusting a flow rate of the atmosphere inside the casing which is exhausted from the second

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exhaust pipe to a second flow rate which is higher than the first flow rate to maintain a pressure inside the casing at a higher level than a pressure inside the casing.

10. A coating method according to claim 8,

5 wherein, a flow rate of the atmosphere inside the container which is exhausted from the first exhaust pipe is increased only when the coating solution is supplied onto a center of the substrate and the coating solution is diffused while the substrate is rotated.

11. A coating method according to claim 9,

10 wherein, a flow rate of the atmosphere inside the container which is exhausted from the first exhaust pipe is increased only when the coating solution is supplied onto a center of the substrate and the coating solution is diffused while the substrate is rotated.

12. A coating method according to claim 8,

15 wherein the coating unit further comprises a coating solution supply nozzle, a carrier for carrying the coating solution supply nozzle, an accommodating portion which is disposed inside the casing, for accommodating the carrier therein, and a third exhaust pipe for exhausting an atmosphere inside the accommodating portion, and

20 wherein the atmosphere inside the accommodating portion is exhausted from the third exhaust pipe at least when the coating solution supply nozzle is positioned above the substrate.

13. A coating method according to claim 9,

25 wherein the coating unit further comprises a coating solution supply nozzle, a carrier for carrying the coating solution supply nozzle, an accommodating portion which is disposed inside the casing, for

09972866-101001

accommodating the carrier therein, and a third exhaust pipe for exhausting an atmosphere inside the accommodating portion, and

wherein the atmosphere inside the accommodating portion is exhausted from the third exhaust pipe at least when the coating solution

5 supply nozzle is positioned above the substrate.

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